

Appendix 7: Terrestrial natural communities of Nebraska.

The following is the list of terrestrial natural communities for Nebraska used in developing the Nebraska Natural Legacy project. The 83 terrestrial community types include wetland and upland types (any habitat with rooted vegetation) and are part of the National Vegetation Classification (NVC) system (Grossman et al. 1998) which is the standard classification used by federal agencies (see NatureServe.org for information on the NVC). Full descriptions of each community type are found in Rolfsmeier and Steinauer (2010). The sections on biologically unique landscapes within the ecoregion chapters list the community types known from each landscape. Unfortunately, there is currently no statewide classification system for open water habitats (lakes, rivers, streams), though there is an urgent need for such a system.

Fields in the descriptions below include:

G-Rank, S-Rank: Explanation of these ranks is found in Appendix 4.

Goal: The minimum number of occurrences or examples to be conserved in Nebraska.

Distribution: The distribution of the community type in Nebraska relative to its entire range. This was a factor used in setting the goal for each type (see Chapter 3).

- Endemic: community types that are found only in Nebraska or generally have more than 90% of their range within the state.
- Limited: community types that occur primarily within one region (e.g., Great Plains).
- Widespread: community types that are common in a number of regions and widespread in Nebraska.
- Peripheral: community types that are found mainly in other regions, generally less than 10% of their range in Nebraska.

Patch Size: Refers to the amount of area a typical example of a community type would have covered prior to Euro-american settlement. This factor was also used in setting the goal for each type (see Chapter 3).

- Matrix: > 1,000 acres
- Large Patch: 100-1,000 acres
- Small Patch: < 100 acres

TERRESTRIAL NATURAL COMMUNITIES

(Upland and wetland systems with rooted vegetation)

WETLAND FOREST AND WOODLAND COMMUNITIES

Cottonwood-Diamond Willow Woodland

G-Rank: G? S-Rank: S2? Goal: 10 Distribution: Limited

Patch size: Small patch

Range in NE: Missouri River, Middle Loup River and Elkhorn
River floodplains

Cottonwood-Peachleaf Willow Riparian Woodland

G-Rank: G3G4 S-Rank: S3 Goal:5 Distribution: Limited

Patch size: Large patch

Range in NE: Mostly along streams in central and western
Nebraska

Cottonwood Riparian Woodland

G-Rank: G2 S-Rank: S2? Goal: 10 Distribution: Limited

Patch size: Small patch/large patch

Range in NE: Mostly in the western 2/3 of state

Eastern Cottonwood – Dogwood Riparian Woodland

G-Rank: GNR S-Rank: S2? Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Missouri River floodplain from Washington
County northward; may also be present on the
lower Platte River

Eastern Riparian Forest

G-Rank: G3G5 S-Rank: S3 Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Floodplains in eastern Nebraska

Peachleaf Willow Woodland

G-Rank: G3 S-Rank: S1 Goal: 1 Distribution: Limited

Patch size: Small patch

Range in NE: Pine Ridge

UPLAND FOREST AND WOODLAND COMMUNITIES

Basswood-Ironwood Spring Branch Canyon Forest

G-Rank: G3 S-Rank: S2 Goal: 10 Distribution: Limited

Patch size: Small patch/large patch

Range in NE: Central Niobrara River Valley in northeast Cherry County; Brown, Keya Paha, and Rock counties

Bur Oak – Basswood – Ironwood Forest

G-Rank: G3 S-Rank: S2S3 Goal: 2 Distribution: Peripheral

Patch size: Large patch

Range in NE: Missouri River bluffs from Dakota County west to Knox County, south side of the Niobrara River to Brown County; may be present south to Omaha

Dry-Mesic Bur Oak Forest and Woodland

G-Rank: G4 S-Rank: S2S3 Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Eastern 1/4 of the state, and westward along the lower Niobrara, lower Loup, and Elkhorn rivers; most common on the Platte, Blue and Nemaha river bluffs

Dry-Mesic Ponderosa Pine Woodland

G-Rank: G3G4 S-Rank: S2 Goal: 10 Distribution: Limited

Patch: Small patch/large patch

Range in NE: Pine Ridge escarpment and possibly the Wildcat Hills and central Niobrara River Valley

Dry Ponderosa Pine Open Woodland and Savanna

G-Rank: G3G4 S-Rank: S3S4 Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Pine Ridge, central Niobrara River, and Wildcat Hills

Dry Upland Bur Oak Woodland

G-Rank: GNR S-Rank: S3? Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: East half of Nebraska, usually in stream valleys

Green Ash- Eastern Red-cedar Scarp Woodland

G-Rank: GNR S-Rank: S3? Goal: 10 Distribution: Limited

Patch size: Small patch

Range in NE: Unglaciaded mixed-grass plains in central and north-central Nebraska

Green Ash – Elm – Hackberry Canyon Bottom Woodland

G-Rank: G2G3 S-Rank: S2 Goal: 10 Distribution: Limited

Patch size: Small patch

Range in NE: Northwest and north-central Nebraska

Mesic Bur Oak Forest and Woodland

G-Rank: G? S-Rank: S1? Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Southeast Nebraska on terraces of Salt Creek, Big Blue, and Big Nemaha rivers

Oak – Hickory – Ironwood Forest

G-Rank: G3 S-Rank: S2 Goal: 2 Distribution: Peripheral

Patch size: Large patch

Range in NE: Occurs along the Missouri River south of Omaha, and small patches may be scattered northward to Dakota County and westward along some major tributaries

Paper Birch Springbranch Canyon Forest

G-Rank: G2? S-Rank: S1 Goal: 10 Distribution: Endemic

Patch size: Small patch

Range in NE: Central Niobrara River in springbranch canyons

Pine-Juniper Scarp Woodland

G-Rank: G4 S-Rank: S3 Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Wildcat Hills and southward in Panhandle on north side of escarpments, areas of the Pine Ridge

Ponderosa Pine Forest

G-Rank: G3G4 S-Rank: S2 Goal: 2 Distribution: Peripheral

Patch size: Large patch

Range in NE: Pine Ridge, central Niobrara Valley, and Wildcat Hills

Red Oak – Basswood – Ironwood Forest

G-Rank: G3G4 S-Rank: S2 Goal: 2 Distribution: Peripheral

Patch size: Large patch

Range in NE: Missouri River bluffs from Washington County southward, may be present north to Dakota County and westward along the Platte River

Rocky Mountain Juniper Woodland

G-Rank: G3G4 S-Rank: S4 Goal: 5 Distribution: Widespread

Patch size: Small patch

Range in NE: Nebraska Panhandle, primarily on escarpments

Sandstone Upland Bur Oak Woodland

G-Rank: GNR S-Rank: S2? Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Rose Creek drainage in Jefferson County

WETLAND SHRUBLAND COMMUNITIES

Riparian Dogwood – False Indigobush Shrubland

G-Rank: G4? S-Rank: S4? Goal: 5 Distribution: Widespread
Patch size: Small patch
Range in NE: Streams and rivers in eastern 1/2 of Nebraska on high
banks and raised islands

Sandbar Willow Shrubland

G-Rank: G5 S-Rank: S4S5 Goal: 5 Distribution: Widespread
Patch size: Small patch
Range in NE: Along streams and rivers throughout the state; on
sandbars, islands, and stream banks

UPLAND SHRUBLAND COMMUNITIES

Buckbrush Shrubland

G-Rank: G4G5 S-Rank: S4 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: West 1/2 of the state in mesic swales and depressions

Buffaloberry Shrubland

G-Rank: G3G4 S-Rank: S2? Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Primarily in northern and western Nebraska

Chokecherry-Plum Shrub Thicket

G-Rank: G4? S-Rank: S3? Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Wide distribution in northern Nebraska

Mountain Mahogany Shrubland

G-Rank: G5 S-Rank: S3 Goal: 5 Distribution: Widespread
Patch size: Small patch
Range in NE: Wildcat Hills and, to a lesser extent, other escarpments in
the west; upper slopes and canyon sides

Skunkbush Sumac Shrubland

G-Rank: GNR S-Rank: S2? Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Pine Ridge in Sioux County

WETLAND HERBACEOUS COMMUNITIES

American Lotus Aquatic Wetland

G-Rank: G4? S-Rank: S1? Goal: 5 Distribution: Widespread
Patch size: Small patch
Range in NE: Missouri River valley

Cattail Shallow Marsh

G-Rank: G5 S-Rank: S2 Goal: 5 Distribution: Widespread
Patch size: Small patch/large patch
Range in NE: Statewide

Eastern Bulrush Deep Marsh

G-Rank: G4G5 S-Rank: S3 Goal: 5 Distribution: Widespread
Patch size: Small patch/large patch
Range in NE: Banks and backwaters of river and large streams in the eastern 1/2 of the state

Eastern Cordgrass Wet Prairie

G-Rank: G3? S-Rank: S1 Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Tallgrass prairie region of eastern Nebraska on floodplains

Eastern Pondweed Aquatic Wetland

G-Rank: G4G5 S-Rank: S3? Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Shallow, freshwater basins, floodplain backwaters of large rivers in the southern 1/2 of the state

Eastern Saline Marsh

G-Rank: G1G2 S-Rank: S1 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Salt Creek drainage, in floodplain depressions with standing water most of the year

Eastern Saline Meadow

G-Rank: G2G3 S-Rank: S1 Goal: 5 Distribution: Limited
Patch size: Large patch
Range in NE: Salt Creek drainage, in shallow depressions and level ground of floodplains. This community contains meadow areas and salt flats

Eastern Sedge Wet Meadow

G-Rank: GNR S-Rank: S1 Goal: 10 Distribution: Limited
 Patch size: Small patch
 Range in NE: Floodplain of the Missouri River and its tributaries

Freshwater Seep

G-Rank: G3 S-Rank: S3 Goal: 5 Distribution: Widespread
 Patch size: Small patch
 Range in NE: Throughout the state but best developed in the Sandhills, Smokey Hills, and Pine Ridge; slope of hills, base of bluffs, and valleys where groundwater discharge is present

Northern Cordgrass Wet Prairie

G-Rank: G2G3 S-Rank: S2 Goal: 5 Distribution: Limited
 Patch size: Large patch
 Range in NE: Platte River valley and northward in central Nebraska; on upland depressions and stream floodplains and terraces

Northern Pondweed Aquatic Wetland

G-Rank: G4G5 S-Rank: S4 Goal: 20 Distribution: Endemic
 Patch size: Small patch/large patch
 Range in NE: Lakes and backwaters from Platte River northward, best developed in the Sandhills

Playa Wetland

G-Rank: G2G4 S-Rank: S1 Goal: 10 Distribution: Limited
 Patch size: Small patch
 Range in NE: Throughout the state but most common in the Rainwater Basin region; shallow depressions on level ground that is temporarily flooded

Prairie Fen

G-Rank: G1 S-Rank: S1 Goal: 5 Distribution: Limited
 Patch size: Small patch
 Range in NE: Little Blue River valley in Jefferson County; associated with sandstone slopes and groundwater discharge

Reed Marsh

G-Rank: G4 S-Rank: S4 Goal: 5 Distribution: Widespread
 Patch size: Small patch
 Range in NE: Northern 1/2 of the state, from Platte River valley northward

Saline/Alkaline Aquatic Wetland

G-Rank: G2 S-Rank: S3 Goal: 10 Distribution: Limited
 Patch size: Small patch
 Range in NE: Closed Basin region of the western Sandhills and Salt Creek drainage

Sandhills Fen

G-Rank: G1G2 S-Rank: S1S2 Goal:14 Distribution: Endemic
Patch size: Large patch
Range in NE: Sandhill valleys; areas with extensive groundwater discharge and peat and muck soils

Sandhills Hardstem Bulrush Marsh

G-Rank: G4 S-Rank: S4 Goal: 20 Distribution: Endemic
Patch size: Small patch/large patch
Range in NE: Eastern 1/2 of the Sandhills, possibly into the Elkhorn and Loup river drainages

Sandhills Wet Meadow

G-Rank: G3G4 S-Rank: S2? Goal: 5 Distribution: Limited
Patch size: Large patch
Range in NE: Sandhill valleys and sand flats, floodplains of Sandhills rivers, the Loup River and the Elkhorn River floodplains.

Spikerush Vernal Pool

G-Rank: G5 S-Rank: S1 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Northwestern and north-central Nebraska; small, relatively deep (.5-1m) basin-like depressions in streambeds or adjacent to ponds and marshes

Water-Lily Aquatic Wetland

G-Rank: G5 S-Rank: S2 Goal: 10 Distribution: Limited
Patch size: Small patch /large patch
Range in NE: Lakes and ponds in the Sandhills

Western Alkaline Marsh

G-Rank: G3G4 S-Rank: S3 Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Most abundant in Closed Basin region of the western Sandhills, also in North Platte River valley; in depressions and basins

Western Alkaline Meadow

G-Rank: G3 S-Rank: S3 Goal: 5 Distribution: Limited
Patch size: Large patch
Range in NE: North Platte River valley and Closed Basin region of the Sandhills, level ground on river bottoms and interdunal valley bottoms in areas of alkaline lakes and marshes

Western Sedge Wet Meadow

G-Rank: G4 S-Rank: S2 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Nebraska Panhandle; occurs on stream banks and streambeds that contain standing water much of the year

Western Sub-Irrigated Alkaline Meadow

G-Rank: G3 S-Rank: S2? Goal: 5 Distribution: Limited
Patch size: Large patch
Range in NE: Upper Niobrara River valley, North Platte River valley; may be present in Sandhills

Wheatgrass Playa Grassland

G-Rank: G2G3 S-Rank: S1 Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Most abundant in loess plains of south-central and southwest Nebraska, but is also apparently present in extreme northwest Nebraska and Todd Valley of east-central Nebraska

UPLAND HERBACEOUS COMMUNITIES

Dakota Sandstone Tall-grass Prairie

G-Rank: G3? S-Rank: S2 Goal: 3 Distribution: Limited
Patch size: Matrix
Range in NE: Smokey Hills region of southern Jefferson and southwestern Gage counties

Eastern Sand Prairie

G-Rank: G3 S-Rank: S4 Goal: 5 Distribution: Limited
Patch size: Large patch/matrix
Range in NE: Northern, eastern, and southern periphery of the Sandhills, outliers along Elkhorn, Loup, and Platte Rivers

Greasewood Shrub Prairie

G-Rank: G4 S-Rank: S2 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Hat Creek Basin in northern Sioux County; level ground on upland terraces adjacent to stream valleys; poorly-drained alkaline clay and silty clay loam soils

Great Plains Gravel/Cobble Prairie

G-Rank: GNR S-Rank: S3 Goal: 10 Distribution: Limited

Patch size: Small patch/large patch

Range in NE: On shoulders of upland bluffs above stream valleys in the Niobrara River drainage from Cherry County to Knox County; also southwest Nebraska in Deuel and Keith counties

Loess Mixed-grass Prairie

G-Rank: G3? S-Rank: S3 Goal: 3 Distribution: Limited

Patch size: Matrix

Range in NE: Loess mantled hills and plains of central Nebraska and portions of southeastern and northeastern Nebraska

Lowland Tall-grass Prairie

G-Rank: G2G3 S-Rank: S1 Goal: 5 Distribution: Limited

Patch size: Large patch

Range in NE: Along river and stream valleys within the tall-grass region, primarily on floodplains and terraces; also ravines in uplands

Missouri River Floodplain Terrace Grassland

G-Rank: GNR S-Rank: S2? Goal: 5 Distribution: Endemic

Patch size: Small patch/large patch

Range in NE: High terraces of the Missouri River in northeast Nebraska on sands formed from alluvium

Missouri River Valley Dune Grassland

G-Rank: GNR S-Rank: S2 Goal: 5 Distribution: Endemic

Patch size: Small patch

Range in NE: Terraces of the Missouri River in northeast Nebraska on moderately sloping sand dunes

Northern Loess/Shale Bluff Prairie

G-Rank: G2 S-Rank: S2 Goal: 10 Distribution: Limited

Patch size: Small patch/large patch

Range in NE: South side of the Missouri River from Dixon County to Boyd County, may be westward along the Niobrara and Keya Paha Rivers to Boyd and Keya Paha counties; nearly level slopes and bluff tops of loess

Northwestern Mixed-grass Prairie

G-Rank: G4 S-Rank: S3 Goal: 3 Distribution: Limited
 Patch size: Matrix
 Range in NE: Occurs in the Hat Creek and White River basins in Dawes, Sheridan, and Sioux counties in extreme northwest Nebraska; uplands with clay soils

Sandhills Dry Valley Prairie

G-Rank: G3 S-Rank: S4 Goal: 14 Distribution: Endemic
 Patch size: Large patch
 Range in NE: Western 2/3 of Sandhills; broad to nearly level interdunal valleys and upland stream terraces; soils well drained,

Sandhills Dune Prairie

G-Rank: G4G5 S-Rank: S4S5 Goal: 3 Distribution: Limited
 Patch size: Matrix
 Range in NE: Sandhills and outlying dunes; uplands

Sandhills Mesic Tall-grass Prairie

G-Rank: G3 S-Rank: S2 Goal: 5 Distribution: Limited
 Patch size: Large patch/Matrix
 Range in NE: Eastern Sandhills west to Logan County and eastern Cherry County; mostly on low dune slopes and small sandy rises associated with wet meadows

Sandsage Prairie

G-Rank: G3 S-Rank: S3 Goal: 3 Distribution: Limited
 Patch size: Matrix
 Range in NE: Panhandle, western edge of the Sandhills, Wildcat Hills, Chase, Dundy, and Perkins counties; on rolling dunes, fine and loamy sands

Silver Sagebrush Shrub Prairie

G-Rank: G4 S-Rank: S2 Goal: 10 Distribution: Limited
 Patch size: Small patch/large patch
 Range in NE: White River and Hat Creek drainages in Dawes and Sioux counties; terraces and floodplains of intermittent streams; poorly drained soils

Southern Sand/Gravel Prairie

G-Rank: GNR S-Rank: S2? Goal: 10 Distribution: Limited
 Patch size: Small patch
 Range in NE: Uplands on the north side of the Little Blue River and Big Sandy Creek in southwestern Jefferson and Thayer counties and on the north side of the Republican River in Nuckolls and Webster counties

Threadleaf Sedge Western Mixed-grass Prairie

G-Rank: G5 S-Rank: S3S4 Goal: 3 Distribution: Limited
 Patch size: Matrix
 Range in NE: Most of the Nebraska Panhandle with the exception of extreme northwest and portions of southwest Nebraska in Keith and Chase counties; also occurs eastward along the Niobrara River; on gentle uplands, level to moderate slopes

Upland Tall-grass Prairie

G-Rank: G2 S-Rank: S1S2 Goal: 3 Distribution: Limited
 Patch size: Matrix
 Range in NE: Eastern 1/5 of the state but westward on loess hills to central Nebraska

Western Floodplain Terrace Grassland

G-Rank: G4 S-Rank: S3 Goal: 10 Distribution: Limited
 Patch size: Small patch/large patch
 Range in NE: Along river and stream valleys in the western 1/2 of the Panhandle; level ground in the floodplains

Western Sand Prairie

G-Rank: G3 S-Rank: S3? Goal: 10 Distribution: Limited
 Patch size: Small patch/large patch
 Range in NE: Within the range of the western mixed-grass prairie in the Panhandle, on slopes below sandstone outcrops and escarpments

Wheatgrass Western Mixed-grass Prairie

G-Rank: G5 S-Rank: S4 Goal: 2 Distribution: Widespread
 Patch size: Large patch/matrix
 Range in NE: Panhandle of western Nebraska, more common northward

WETLAND SPARSELY VEGETATED COMMUNITIES

Perennial Sandbar

G-Rank: G5 S-Rank: S3S4 Goal: 5 Distribution: Widespread
 Patch size: Small patch
 Range in NE: Channels of streams throughout the state; sandbars, islands, and shorelines

Sandbar/Mudflat

G-Rank: G4G5 S-Rank: S5 Goal: 5 Distribution: Widespread
 Patch size: Small patch
 Range in NE: Within channels of larger streams and rivers throughout the state

UPLAND SPARSELY VEGETATED COMMUNITIES

Badlands

G-Rank: G4G5 S-Rank: S3 Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Occurs in Dawes, Scottsbluff, and Sioux counties, on eroded slopes of siltstone, clay and clay with cobbles; most sites bordered by mixed-grass prairie

Eastern Sandstone Bluff and Cliff

G-Rank: G4G5 S-Rank: S4 Goal: 5 Distribution: Widespread
Patch size: Small patch
Range in NE: Smoky Hills Region in Jefferson County and occasionally on the bluffs of the Missouri River, mostly in Dakota and Thurston counties

Northern Chalk Bluff and Cliff

G-Rank: GNR S-Rank: S5 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Southside of Missouri River Valley in Knox and Cedar counties; northeastern Dawes and northwestern Sheridan counties

Riverine Gravel Flats

G-Rank: G? S-Rank: S2? Goal: 10 Distribution: Limited
Patch size: Small patch/large patch
Range in NE: Occurs along the Platte River in Dawson County westward; occurs as patches or bands on level ground, usually on the first terrace of rivers or in level canyon bottoms; also South Platte River in Deuel and Keith counties

Rock Outcrop

G-Rank: G4? S-Rank: S4 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Escarpments in the Panhandle and southwest Nebraska; occurs on level to moderately steep (40% grade) upper and middle slopes on irregularly eroded sandstone and siltstone escarpments and ravines

Western Sandstone Cliff

G-Rank: G4G5 S-Rank: S5 Goal: 10 Distribution: Limited
Patch size: Small patch
Range in NE: Escarpments of the Panhandle; also central Niobrara River Valley

AQUATIC (Open water systems)

Below is a very basic classification of aquatic systems that was used to attribute the biologically unique landscapes. There is an urgent need to develop a more rigorous aquatic habitat classification system for Nebraska.

LAKES

Alkaline
Non-alkaline

RIVERS and STREAMS

Headwater, cold water stream
Headwater, warm water stream
Mid-order, cold water river
Mid-order, warm water river
Large, warm water river